

Fescue in Native Prairie

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The Nature Conservancy owns approximately 4000 acres in the Dunn, Pawnee grasslands focus area. The core area of the project is 1100 acres of unplowed prairie land. This is the largest unplowed portion of prairie left in the entire Central Tallgrass ecoregion. The 1100 acres is degraded prairie with Fescue as the main problem for restoration. The Nature Conservancy and the Missouri Dept of Conservation are doing two types of restoration work in the focus area.

The first is from scratch or complete restoration of monoculture Fescue or crop ground. The second and most challenging is the restoration of remnant prairie that has been invaded with Fescue. I will mainly address the second type of restoration in this presentation. The Nature Conservancy is in their fourth year of management of the prairie in the following bullets I will outline the types of management we have conducted and the results we have observed. I might add that detailed baseline vegetation monitoring was done the first year and will be done again probably in the fifth year of management.

The ranch is divided into units and each unit has had different types of management over the last three years. The main types of management have been rotational grazing, early intensive grazing, season long grazing, controlled burning and timed mowing and then following up with herbicide treatment.

The rotational grazing the first year showed little if any response for promoting warm seasons and reducing Fescue. In this system cattle were moved from one unit to another every seven days. It was a fairly wet summer and the stocking rate was fairly low. The structure of the grasslands was good for grassland birds as it was fairly patch, low in some places high in others. It is my conclusion that the rotational grazing is a good way to manage Fescue for grazing but not for Prairie restoration.

The second management technique is season long grazing. In this system a stocking rate of 1 animal unit per every two acres is used from April 15th to November 15th for the grazing duration. This system does nothing to promote warm seasons and really favors the Fescue allowing it to go to seed. What native plants that are in the pastures are the first to be grazed and grazed often to the point the Fescue becomes dominant. However the structure of the grasslands is pretty good for grassland birds using this stocking rate.

The third type of grazing done is early intensive with a fairly high stocking rate. We have been using 1.5 to 2 animal units per acre in this system. The idea is to mob graze the Fescue early in the growing season when it is most actively growing and then pull the cattle off the pastures when the warm seasons are starting to hit their peak growing season. The grazing duration for this type of management has been from April 1st to

July 1st. After using this system for three years it is our observation that the pull out time needs to be moved up to the 15th of June or even sooner in dry conditions. The first year we used this system it was dry in the spring and started raining in late July. The response of native grasses was tremendous, I thought we really had figured out how to graze and restore prairie. The end of the second year in which the weather conditions were the opposite proved that we still had a lot of Fescue. However even with the dry weather in July and August the responses of natives was still fairly good, but not as impressive as the first year. Year three has proved to be much like the second year with a dry July and August. With the response we have had we feel you have to get the cattle off by the middle of June. My final observation of this system is that with the grazing you can get warm seasons to respond but it does not eliminate the Fescue but it does manage it.

The use of fire has brought both positive and negative results. In almost all units that have been burned we have had a good results with getting the native plants to respond if they are there. If they are not there it actually tends to promote the growth of Fescue. In one control area we have burned annually for three years and the number of native plants continues to increase. The problem is that now we have a lot of native plants but we still have the Fescue. The fall burns have been a little more successful in retarding the Fescue if you have enough fuel to burn while the Fescue is still growing. However it will not eliminate the Fescue.

The most favorable management technique we have used is mowing in late September or October and then after three to four killing frost to set the native plants into dormancy coming back and spraying the Fescue when it greens up usually in early November. We are using one quart of round up ultra to the acre. In the test area we sprayed last fall we had 100 % kill of the Fescue. The plants that replaced the Fescue were mostly low quality prairie plants with warm season grasses in low quantities. The Prairie Chickens used this area for brood habitat this summer. From a producer standpoint I think it would be important to follow the spraying with frost seeding to promote a faster regrowth of forage. Keep in mind this is the first year we have used the mow, spray technique so as we replicate the management we will be able to tell more in the coming years.

In conclusion there is no magic formula for Fescue control in Native Prairie. You have to look at all of the factors for each management unit and change the game plan to fit each unit. I feel that early intensive grazing and burning can be very beneficial but at some point herbicide will have to be used to eliminate the fescue.